Picture 1: MDR-TB patient care at Bishoftu hospital second-line treatment initiation center, Oromiya region, 2016

Challenge TB - Ethiopia

Year 2

Annual Report

October 1, 2015 – September 30, 2016

October 30, 2016

Cover photo:

Due to TB/HIV co-infection, this patient (seen together with a health worker) faced stigma and discrimination in her community. After Nurse Hiwot was trained on MDR TB with the technical and financial support by USAID/CTB, she was able to provide the necessary care and support to this patient. Hence, the patient was cured from the MDR-TB disease.

Photo was taken by Berhan Teklehimanot, communication & Knowledge Management officer, USAID/Challenge TB Project

This report was made possible through the support for Challenge TB provided by the United States Agency for International Development (USAID), under the terms of cooperative agreement number AID-OAA-A-14-00029.

Disclaimer

The authors' views expressed in this publication do not necessarily reflect the views of the United States Agency for International Development or the United States Government.

Table of Contents

1. Executive Summary 6

2. Introduction 8

3. Country Achievements by Objective/Sub-Objective 11

4. Challenge TB Support to Global Fund Implementation 32

5. Challenge TB Success Story 34

6. Operations Research 36

7. Key Challenges during Implementation and Actions to Overcome Them 37

8. Lessons Learnt/ Next Steps 38

Annex I: Year 2 Results on Mandatory Indicators as well as National Data on the Number of pre-/XDR-TB Cases Started on Bedaquiline or Delamanid 40

Annex II: Status of EMMP activities ..... **Error! Bookmark not defined.**

List of Pictures

Picture 1: MDR-TB patient care at Bishoftu hospital second-line treatment initiation center, Oromiya region, 2016
Picture 2: Naso-gastric aspiration for sample collection, from pilot site in A.A
Picture 3: Geographic coverage of Challenge TB support in EthiopiaPicture 4: Job aids and guidelines to support MDR-TB care at health facility level
Picture 5: National cohort analysis wall chart: Hosaena MDR-TB treatment center-SNNPR.

List of Figures & tables

Figure 1: Trend of MDR TB cases enrollment by year, 2010-2016, Ethiopian NTP data
Figure 2: Number of TB cases notified and TB Case notification rate (CNR), 2010-16, Ethiopian NTP data
Figure 3: Treatment outcome (TSR) for MDR-TB patient cohorts (24 month outcome), 2011-2016, NTP data

Table 1: CTB supported regions EQA coverage and performance
Table 2: IPT coverage among newly enrolled HIV patients in CTB supported regions, July 2015 -June 2016
FMOH/HMIS data

List of Abbreviations and Acronyms

AFB = acid fast bacilli

CBTC = community based TB care

CI = contact investigation

CTB = Challenge TB

EQA = External quality assurance

HEW = health extension worker

HMIS = health management information system

IMNCI = integrated maternal neonatal and child health intervention

IPT = INH preventive therapy

LQM = laboratory quality management

MDR-TB = multidrug resistant TB

MSH = Management Science for Health

NSP = national strategic plan

NTP = national TB control program

RHB = regional health bureau

RRL = regional reference laboratory

SLIPTA = stepwise laboratory quality improvement process towards accreditation

SLMTA = strengthen laboratory management towards accreditation

SNNPR = Southern nation nationality people region

TFC = treatment follow up center

TIC = treatment initiation center

WHO = World Health Organization

XDR-TB = extensively drug-resistant TB

1. Executive Summary

The APA2 (October 2015-September 2016) work plan that CTB-Ethiopia developed jointly with the USAID Mission and in close consultation with the MOH/NTP was approved in September 2016. The APA2 activities focused to the two agrarian (SNNPR and Tigray) and urban region (Addis Ababa, Dire Dawa and Harar) for the first 6 months period. The last 6 month was included in the 18 months expanded challenge TB period (April 2016- September 2017). During this period CTB support has been expanded to seven regions by adding Amhara, Oromia, Benishangul and Gambella regions. In the last two quarters of APA2, Amhara and Oromia regions are included which were supported by USAID/Heal TB project. CTB in Ethiopia is implemented by three partners namely KNCV Tuberculosis Foundation, Management Science for Health (MSH) and World Health organization (WHO). KNCV TB Foundation is the lead partner in Ethiopia. Challenge TB was a follow on to the TB CARE I project. Total obligated amount for APA2 was $ 4.2 million ($3.5 million TB fund+ 778,718 PEPFAR). With the saving of $1.6 million of APA 1, the total budget for APA2 was $5.8 million.

CTB's intervention areas are mainly focusing on ensuring the delivery of basic TB programing - especially at zonal, woreda (district) and community level, while it emphasizes on assisting the NTP and RHBs to ensure continuum of care addressing the gaps in providing drug-sensitive, drug-resistant TB and TB/HIV collaborative activities. The three main objectives, each with several focused areas of intervention are: 1. Improve access to patient centered care, 2. Prevention of transmission and disease progression, and 3. Strengthened TB platforms or HSS. Guided by the above three objectives and in close collaboration and partnership of all stakeholders CTB has been able to contribute significantly in year 2 to the NTP's achievement in the following key areas :

- CTB has been instrumental in quality service expansion in order to improve the case finding of drug-resistant TB cases in the country. Availing new technologies like the GenXpert, ensuring quality in the diagnostic service, scaling up treatment initiating centers and building local capacity in terms of human, medical commodities and equipment. As a result, the overall national case finding and enrollment into second-line treatment of MDR-TB cases has increased significantly. A 22% increase was observed in 2015/16 which is much higher than the increase a year earlier (7%) and 13% higher than initially planned (650).

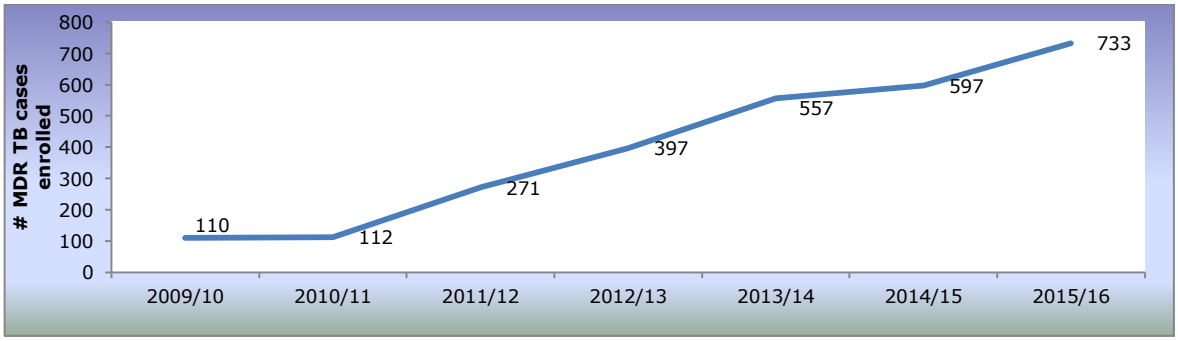


Figure 1: Trend of MDR TB cases enrollment by year, 2010-2016, Ethiopian NTP data

- As per the global recommendation, the national efforts has been gaining momentum in improving childhood TB care in Ethiopia, from developing national childhood TB prevention and care roadmap, training material and job aids and the recently initiated pilot implementation of an integrated TB care service at the child health clinics (IMNCI), where best practices and lessons would be learnt for scaling up implementation in all regions of the country. Early results:
    - Practice of health care staff in sample collection from young children in the attempt to diagnose TB has started to take off (previously not commonly practiced), see pic 2.

Picture 2: Naso-gastric aspiration for sample collection, from pilot site in A.A

- Children under 5 years of age who are contacts of TB cases have been identified as risk group to develop TB, and CTB has been instrumental in building the capacity of TB officers to screen

close contacts and diagnose or rule out TB in children. In year 2, from a total of 1038 children below 5 years of age who were household contacts identified and 941 were screened negative and 425 (45%) of them put on IPT. Of the total children evaluated, children with presumptive TB were 43 (4%) and 13 (30%) children diagnosed TB and put on treatment.

- With the increasing number of MDR-TB cases on treatment and decentralization of MDR-TB service in the country, there is a much higher need for regular sputum follow up of these patients at referral labs. A standard specimen transportation system is critical to ensure timely transportation and safe delivery of specimens to the culture laboratories that are located far and limited in number e.g. 6 culture labs for Oromiya, Amhara & Addis Ababa regions. To this effect, CTB supported the importation of 8 cold chain vehicles and e-health (specimen referral) software was developed in consultation with the RHBs to facilitate better communication between referring and testing facilities. In the period from 20th Aug – 30th Sept, 2016, a total of 550 specimens were collected from all treatment sites of Oromia, Amhara as well as ALERT and St Peter hospitals. Thus far, the vehicles traveled from their duty station to specimen referral health facilities 32 times of which 24 (75%) runs achieved same day delivery of sputum samples to testing facilities. In the remaining 8 (25%) runs, sputum were collected and delivered to testing sites within 2 days. The result showed that the use of cold chain vehicle sample transportation reduced the time of sample delivery significantly as compared with the baseline in Adama regional lab. In Adama, 363 (74.4%) samples were delivered to regional lab within 7 days while the rest of the 125 (25.6%) samples were delivered in greater than 7 days' time.

- As per the recommendation of WHO, the introduction of new second-line drugs (Bedaquline and Delamanide) for the treatment of pre-XDR / XDR patients in Ethiopia has been successfully implemented and started service in June 2016. Enrolled 10 patients who are in need of these drugs. Regular support and mapping of eligible patients, training, availing job aids and organizing continued medical education, along with procurement of equipment (e.g. audiometer) for monitoring toxicity have all been supported through CTB in year 2.

2. Introduction

USAID/Challenge TB (CTB) project is the major TB program working closely with the Ministry of Health, USAID mission, Global Fund, and other stakeholders in Ethiopia. The APA2 activities focused to the two agrarian (SNNPR and Tigray) and urban region (Addis Ababa, Dire Dawa and Harar) for the first 6 months period. The last 6 month was included in the 18 months expanded challenge TB period (April 2016- September 2017). During this period, CTB support has been expanded to seven regions by adding Amhara, Oromia, Benishangul and Gambella regions. In the last two quarters of APA2, Amhara and Oromia regions are included which were supported by USAID/Heal TB project. The

support of other two regions (Gambella and Benishangul Gumuz) will start in year 3. Hence, the CTB support in year 3 will be scaled up to 9 of the 11 regions of the country.

CTB Project is implemented by three partners namely KNCV Tuberculosis Foundation, Management Science for Health (MSH) and World Health organization (WHO). KNCV TB Foundation is the lead partner in Ethiopia. Challenge TB was a follow on to the TB CARE I project. The total obligated amount for year 2 was $ 4.2 million ($3.5 million TB fund+ 778,718 PEPFAR) and pipeline from year 1 ($1.6 million), making total budget $5,878,718. KNCV is responsible for the overall project implementation which includes activities at national level and CTB supported regions. The operations in regions of SNNPR, Addis Ababa, Dire Dawa, Harari and Gambella is led by KNCV, while MSH will has substantial involvement through implementation of CTB activities in Amhara, Oromia, Benishangul Gumuz and Tigray (Figure 1). WHO's role is mainly providing technical assistance in designing strategies, assist in global fund implementation and coordination of partnership at national level and regional level (Tigray and SNNPR). CTB is currently operating in seven of the nine project regions and will expand to Gambella and Benishangul Gumuz regions as of October 1st 2016. The support provided by CTB project in the regions covers an estimated population size of 85 million (90% of the total population).

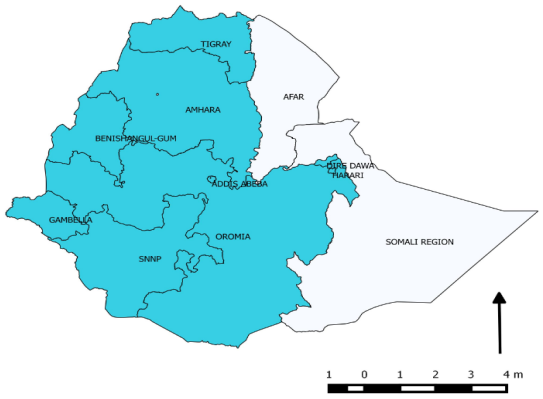


Figure 2: Geographic coverage of Challenge TB support in Ethiopia

Though Directly Observed Treatment (DOTS) has nationwide coverage in Ethiopia, the case finding for all forms of TB remains lower than the estimated incidence and there is a declining trend of the notified TB cases since 2010 (Fig 2). Under-reporting of detected cases through the national HMIS, limited effort in active case finding (ACF), sub-optimal implementation of community based TB care (CBTC) in most of the regions were some of the most important factors for the declining trend in case notification. In addition, there is an increase of the MDR-TB burden in the country. Although universal testing of TB patients for HIV seems feasible, linkage for HIV care and provision of comprehensive care including ART has been sub-optimal.

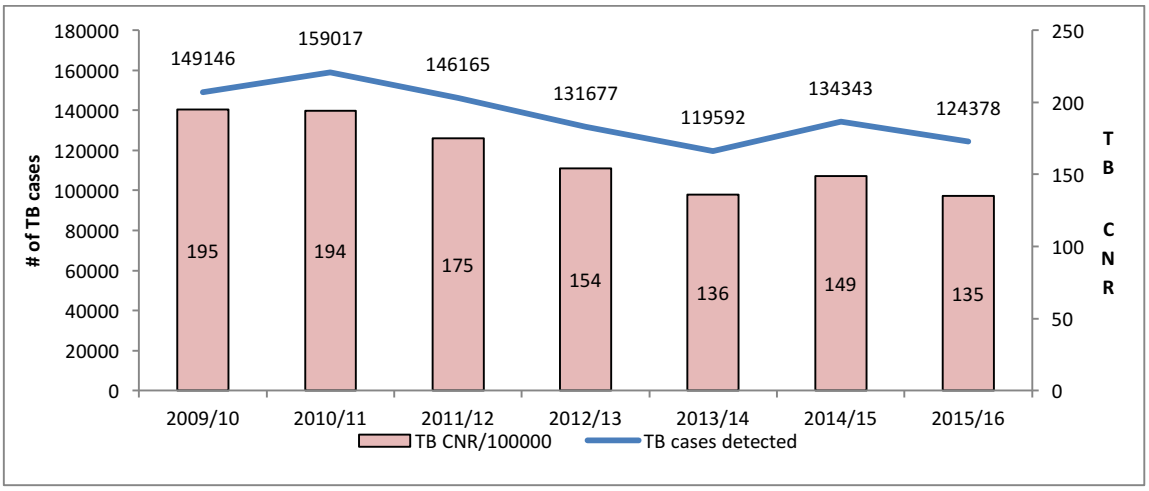


Figure 2: Number of TB cases notified and TB Case notification rate (CNR), 2010-16, Ethiopian NTP data

Issues and gaps related to the National TB Program (NTP) have been identified from series of documents review including the NTP external review (2013), the Global Fund concept note, USAID, etc. The NTP has set ambitious plans to strengthen and scale up CBTC, MDR-TB and TB/HIV services, however, the success is highly dependent on the technical and implementation support provided to NTP at national, regional and district levels. Therefore, in year-2 CTB support has focused on high level technical and implementation support to the NTP at the regional, zonal and woreda level. The resources in Global Fund and technical capacity in Challenge TB both aim to strengthen program performance at all levels. In addition, CTB has identified key populations in year 1 and 2 for a targeted intervention, based on their overall higher burden of TB disease and/or size of the population. Within the geographic areas under the project, People living in congregate settings e.g. prisoners, the urban poor, pastoralist population, centers for care and feeding of homeless, disabled and elderly's , migrant workers, etc. Children, PLHIV and health care workers are also identified to receive special attention under CTB and started support in year 1 and 2.

Jointly with the USAID Mission and in close consultation with the FMOH/NTP, **three key objectives** were adopted from USG and end TB strategies during work plan development of year-1 of Challenge TB. The three objectives have been adapted for Year-2 to address the gaps discussed above, and align with both the post-2015 Global TB strategy and Ethiopia's NSP:

Objective 1: Improved access to high-quality patient-centered TB, DR-TB & TB/HIV services by:

a) Improving the enabling environment
b) Ensuring a comprehensive, high quality diagnostic network
c) Strengthening patient-centered care and treatment

Objective 2: Prevent transmission and disease progression by:

a) Targeted screening for active TB

b) Implementing infection control measures
c) Managing latent TB infection

Objective 3: Strengthen TB service delivery platforms by:

a) Enhancing political commitment and leadership
b) Strengthening drug and commodity management systems
c) Ensuring quality data, surveillance and monitoring & evaluation
d) Supporting human resource development
e) Building comprehensive partnerships and informed community engagement

The overall zonal and district level support of CTB in the different regions in Ethiopia follows a categorization of low (red), medium (yellow) and good (green) performing zones based on sets of criteria or performance idicators. The individual zone and district support are getting the full, medium or minimal support packages based on their categorization during the baseline assessment. Therefore, the support from CTB project to districts, zones and regions will eventually be eased out as zones and districts graduate i.e. when they reach to the higher level of performance (green).

3. Country Achievements by Objective/Sub-Objective

Objective 1. Improved Access

Sub-objective 1. Enabling environment

CTB identified key populations for a targeted intervention and improved access to care over its project life period. TB screening of high risk population, congregate setting e.g. prisoners upon entry and periodic screening of inmates, referral or diagnosis, etc. are among the major activities to be supported by CTB. Moreover, CTB ensures health workers of facilities working for congregate settings and key population are participating in trainings, supervision and review meetings of the TB program.

Key results

- In year 2, as CTB being expanded to cover most of regions in the country, congregate settings and high risk populations were assessed and identified as per the regional context in order to design relevant interventions. In SNNPR, Oromiya and Tigray, in addition to prison facilities, college & university dormitories, holy water places, pastoralist communities, mega projects, and nursing homes have been identified and targeted for the next years of intervention.
- Regional CTB in SNNPR and Tigray provided technical and financial support in year 2 for the training of health care staff of 15 prisons on comprehensive TB, TB/HIV management. Specific support and interventions focusing on intensifying the TB screening and case finding efforts, establishing access to AFB microscopy and TB treatment services will be initiated in the 1st quarter of year 3.
- In the urban settings, homes for elderlies & mentally disabled people (e.g. Mekedonia), missionary of charities and feeding centers were assessed; material and technical support

have already been initiated in those clinics with identified gaps, e.g. Microscopes, slides, examination coach and office furniture, computers with accessories, etc.

Challenges:

- There has been some delay to actively support the action plan already developed; unit TB register and other R&R tools not yet distributed, reagent and drug supply related issues not yet put in place. Therefore, the concerted effort and support to properly implement the planned interventions will be further increased in the next quarter with engagement of the regional and zonal TB teams.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y2	Result Y
1.1.6	ETHIOPIA SPECIFIC: Status of National Policy for prisons		0	1	1
1.3.1	Patient delay		38	<20	n/a (Daseline obtained by desk review. Too eraly to measure now and indicator dropped in 18 m WP with a plan to measure this in APA4 or 5)
1.4.5	Provider delay		5	3	n/a (not measured; reason same us above)

Sub-objective 2. Comprehensive, high quality diagnostics

Quality diagnostic capacity is the backbone of TB control. Therefore, CTB in year 2 has been engaged to enhance quality service utilization with a focus on key components: service expansion of new technologies e.g. Xpert and LED microscopy to increase access and diagnostic sensitivity; improved external quality assurance (EQA) coverage through decentralization of EQA services; efficient sample transportation and lab networking to enhance access for 1st and 2nd line drugs susceptibility testing (DST), and building human resource capacity at all level.

Key results

- In year 2, CTB support has not only been of service expansion and increasing accessibility for Xpert test, but also substantially supported (technically, financially) the national and regional reference labs in the following major activities: a) national profile micro data base for Xpert developed and fully functional (i.e. the data base provides historical information of each Xpert machines e.g. exact location of the machine, date of installation, machine serial number, date of calibration and next calibration & schedule for Xpert check, funding source, remote connectivity status etc.) b) capacity building orientation sessions and onsite supervision were conducted on Xpert calibration & performing Xpert check from Aug 3-22, 2016 for 35 Xpert machines. c) CTB procured and availed to the national reference lab (EPHI) a total of 86 (80-3G and 5-4G) internet dongs in order to strengthen the GenXpert data reporting system using the GxAlert connectivity option, d) CTB experts coordinated and facilitated Xpert machine maintenance activities, for example, 20 defective modules were collected from sites, 35 Xpert machines modules have been received from the company for free, and 11 modules under warranty of HEALTB/MSH and KNCV were procured and on shipment.
- As part of supporting service expansion by CTB, 5 Xpert machines and 21 Xpert check kits are under clearance, one MGIT machine for Tigray reference lab, 65 LED microscopes and for a reliable sample collection a total of 50,000 falcon tube procured and distributed to Xpert and culture sites.
- Moreover, CTB has been technically and financially supporting the service expansion of Xpert test as first line test for all presumptive TB cases in urban community for earlier identification of drug resistant as well as drug sensitive TB cases. A total of 23 urban health facilities have been assessed using standard GenXpert pre-placement checklist in Addis Ababa, Dire Dawa and Harar towns. The machines will be placed in Q1 of APA3.
- A standard specimen transportation system is critical to ensure timely transportation and safe delivery of specimens to the culture laboratories that are located in few areas of the regions. Therefore, CTB supported the importation of 8 cold chain vehicles and e-health (specimen referral) software was developed in consultation with the RHBs to facilitate better communication between referring and testing facilities. In the period from 20th Aug – 30th Sept, 2016, a total of 550 specimens were collected from all treatment sites of Oromia, Amhara as well as ALERT and St Peter hospitals. The result showed that the use of cold chain vehicle sample transportation reduced the time of sample delivery significantly as compared with the baseline
- In collaboration with the national reference lab, CTB organized training workshop on laboratory quality management (LQMS) for laboratory staff at St Peter in order to provide the necessary guidance and assessment tool to establish and strengthen the lab quality management system. This is part of the CTB support to establish center of excellence lab at St Peter.

- In line with ensuring reliable and reproducible lab results, CTB has been working with the national reference lab and able to enroll 280 health facility labs on SLIPTA/SLMTA program through the implementation of LQM.
- In year 2, regional laboratories have been implementing and scaled up the EQA coverage for AFB microscopy using Random Blind Rechecking (RBR) and on site evaluation as per the national EQA guideline recommendation. As a result 1877 microscopy centers in CTB supported regions participated and 1772 (94%) had >95% concordance result.

Region	**Number of HFs participating in EQA**	**# (%) HFs with >95% concordance**
Addis Ababa	78	70 (89.7%)
Amhara	549	529 (96.4%)
Dire Dawa	18	17 (94.4%)
Harari	7	6 (85.7%)
Oromia	846	795 (94%)
Tigray	111	98 (88.3%)
SNNP	267	257 (96.3%)
CTB Total	**1877**	**1772 (94.4%)**
National	**1912**	**1805 (94.4%)**

Table 1: CTB supported regions EQA coverage and performance

Challenges:

- EQA activities (RBRC for LED FM) and spot-spot sputum collection and same day result were not fully practiced by health facilities due to lack of the guideline. At present EPHI realized that the delay of the guideline becomes a bottleneck on the implementation of the above mentioned activities, therefore, EPHI will print and distribute the guideline soon (by Oct/Nov 2016).
- Major gap which delayed SLIPTA implementation towards accreditation were lack of knowledge and skill on laboratory method validation and verification. Therefore, CTB in collaboration with EPHI organized method verification training from Aug31 – Sept 3, 2016. This training was believed to fill the gap and speed up LQM implementation towards accreditation with special emphases on AFB microscopy and GenXpert lab services.

#	**Outcome Indicators**	**Indicator Definition**	**Baseline (Year/ timeframe)**	**Target**	**Result**
				Y2	**Y**
2.1.2	A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.	This indicator measures whether or not a country has a defined TB laboratory operational plan (work plan) within the larger National TB Strategic Plan or National Laboratory Strategic Plan.	1	1	1 (The national ref lab has a general lab strategy-TB is one of them, currently they are working to have-a TB lab

		Indicator Value: Score based on the following: 0= Operational plan not available 1= Operational plan available 2= Operational plan available and follows standard technical and management principles of a quality work plan required for implementing the necessary interventions to build and strengthen the existing TB laboratory network. 3= Operational plan available and meets annual implementation targets **Level:** National			strategy), they have an operational /workplan – it's in the local language.
2.2.6	Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System (LQMS).	This indicator measures the percentage of TB reference laboratories in the country that are implementing a quality management system for continuous improvement of all aspects of laboratory operations to assure accuracy and reliability of testing. Provide a score/rating for every reference laboratory implementing LQMS, either the "GLI Stepwise Process towards TB Laboratory Accreditation" (scoring = phase 1-4) or SLIPTA/SLMTA for TB (scoring=stars 1-5). Indicator value: Number and percent **Level:** National and/or Regional **Numerator:** Number of TB reference laboratories implementing a quality improvement program **Denominator:** Total number of TB reference laboratories in the country	(73%, 8/11)	NA	8/11 (73%)
2.2.7	Number of GLI-approved TB microscopy network standards met	This indicator measures whether or not a country has assessed and met the 11 GLI-approved standards for the TB microscopy network. A CTB checklist is provided to assess fulfilment of the requirements for each	9/11	NA 11/11	Standards met: 1, 2, 3, 5, 6, 7, 8, 9, 11

		standard. Identify numerically (1-11) which standard(s) have been met. **Indicator value:** Number **Level:** National **Numerator:** Total number of standards met (NE=not evaluated, 0=no standards have been met, etc.).			
2.3.1	Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.	This indicator measures the percentage of bacteriologically confirmed TB cases that are tested for drug resistance and also have results recorded in the TB register (disaggregated by new and previously treated cases). Drug resistance testing includes phenotypic (culture DST) and genotypic (molecular DST by GeneXpert, LPA or other molecular technologies). **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of bacteriologically confirmed TB cases that are tested for drug resistance and have results recorded in the TB register. **Denominator:** Total number of bacteriologically confirmed TB cases notified during the reporting period	Not available	NA	4975 / 8081 (61.6%) National (4142/7089: 58.4%) CTB Numerator =presumptive MDR-TB cases with DST result denominator= total presumptive MDR cases.
2.4.1.	GeneXpert machine coverage per population (stratified by Challenge TB, other)		61 /92 mill	TBD	125 /92,277,000 (1 Xpert for 738,216)- National 115/83.9 million (1 Xpert for 729,478 popn)—CTB regions
2.4.6	#/% of new TB cases diagnosed using GeneXpert		n/a	TBD	DR-TB = 536 RR /835 DR TB (64%) DS-TB = 11,020/124,378

					(8.9%) (national)
2.6.4	# of specimens transported for TB diagnostic services		n/a	TBD	550 (in 6 weeks after starting transport vans)

Sub-objective 3. Patient-centered care and treatment

In close collaboration with the FMOH, the existing national strategy for Community TB Care (CTBC) will be strengthened with a vision to provide high quality accessible services using new and innovative strategies for the three key populations in Ethiopia: agrarian, pastoralist and urban poor. Children, PLHIV and health care workers will also receive special attention under CTB support.

Key results

- Capacity building of health extension workers (HEWs) is important intervention area in order to identify early and facilitate the diagnosis of presumptive cases in the community as well as to ensure treatment adherence and care of those with TB disease in the community. In year 2 CTB has provided technical and financial support to cascade IRT TOT to low performing zones and woredas in the SNNP region, and this was coupled with regular follow up, supportive supervision and mentorship of HEWs to monitor and support the implementation of CTBC activities as per the national guidelines in SNNPR.
- As one key intervention in finding cases early, contact screening of TB patients have been strengthened through the technical support of regional CTB team. In year 2, out of 8307 age above 5 years of household contacts, 7839 (94%) were screened negative and 28 (0,03%) cases have been identified (337 per 100,000) and put on treatment.
- Integration of TB services in the Maternal and Child Health clinics (IMNCI) have been initiated through CTB support in collaboration with FMOH and Addis Ababa regional health office as pilot project as guided by the national childhood TB Roadmap. This pilot implementation outlines the support for enhanced access to diagnostic services such as GenXpert and chest X-ray. As part of the support, CTB continues to provide TA to enhancing the sputum specimen collection skills as well as the referral linkages and sample transportation systems. Thus, we anticipate that the case finding as well as the preventive intervention (IPT) in particular in children below the age of 5 years will improve over the course of this next year.
- Quality of care is a major issue in the MDR-TB management at national as well as in most of the CTB supported regions, as evidenced by the declining trends of treatment success (Fig 3). A comprehensive supportive supervisory mission was conducted and revealed major gaps for immediate action: i. the panel team responsible for MDR-TB patients' management at the TICs was not regularly supporting the facilities (follow up centers), ii. mentoring and catchment

area meetings were irregular due to transportation and financial constraints, iii. weak clinical monitoring of patients and tracing of lost-to-follow up cases, iv. the minimum TBIC packages were not implemented and v. poor recording & reporting.

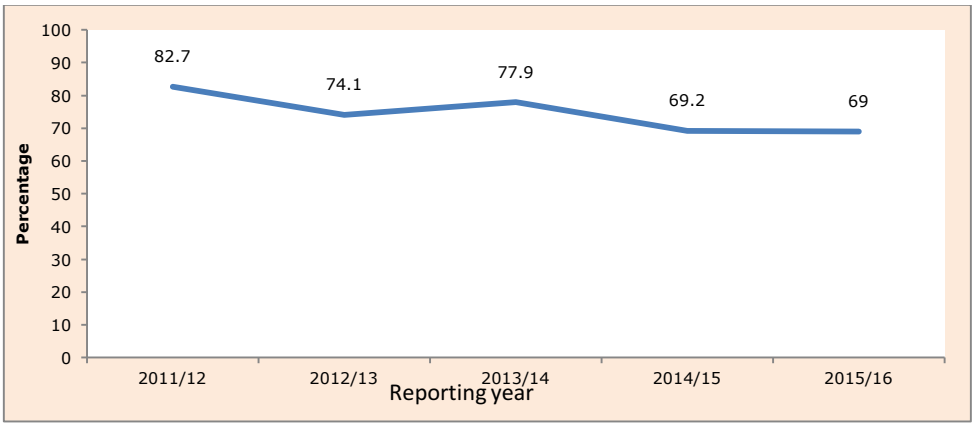
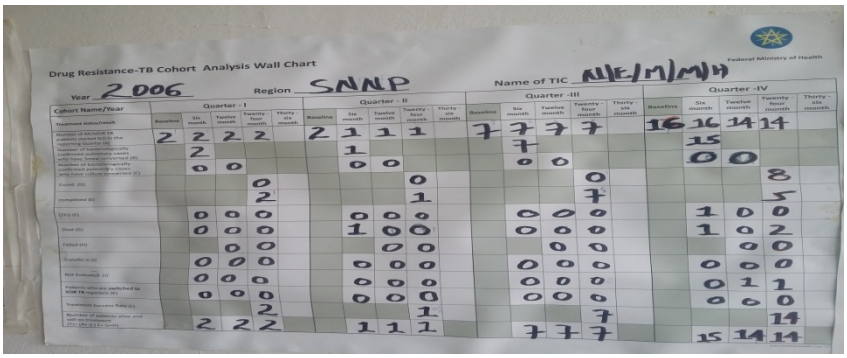


Figure 3: Treatment outcome (TSR) for MDR-TB patient cohorts (24 month outcome), 2011-2016, NTP data

- Therefore, immediate corrective measures were taken through CTB support: meetings with the panel team and feedback provided, one-to-one mentoring conducted for staff involved in the MDR-TB service delivery, catchment area meeting and cohort review was organized, mentorship and support on recording and reporting conducted. As part of supportive supervision a quarterly cohort review using cohort summary excel tool was conducted in all treatment initiating centers. In addition, different DR-TB job aids (Pamphlets, desktop references & posters) and national PMDT guidelines distributed. Though, currently it is too early to claim for an improvement of quality of care, the next years of CTB support would undoubtedly result in an improvement of quality of care and hence treatment outcome in the CTB supported regions.

Picture 4: Job aids and guidelines to support MDR-TB care at health facility level.



Picture 5: National cohort analysis wall chart: Hosaena MDR-TB treatment center-SNNPR.

- In addition to the support of strengthening MDR-TB case finding, CTB supported the NTP technically and financially to improve the enrollment of cases to treatment and the provision of quality of care. The introduction of new drugs (Bedaquline and Delamanide) as recommended by WHO has been successfully implemented and enrolled 10 eligible patients. CTB Provided updates for clinicians on those patients eligible for the new drugs. CTB also assisted the development of national training material and conducted the first national five day training for 46 (M=41, F=5) participants, data officer & social worker recruited. New & repurposed (Clofazemine & Linezolid) drugs procurement is in progress through the GDF.
- From the baseline assessment for readiness of new drug introduction, lack of equipment for monitoring toxicity was one of the findings e.g. hearing test for MDR-TB patients on treatment. Therefore, CTB procured and distributed 10 audiometry sets to treatment centers of ALERT, St Peter and other TICs in Amhara, Oromiya, SNNPR, Dire Dawa and Tigray.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y
3.1.1.	Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	The number of TB cases all forms (i.e. bacteriologically confirmed plus clinically diagnosed, new and relapse) reported by the NTP disaggregated by setting **Indicator Value:** Number and where available, percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of TB cases all forms (bacteriologically confirmed + clinically diagnosed; includes new and relapse cases) reported (by setting/ population/ nationally and in Challenge TB geographic areas in the past year	National/2014/ 15 = 131,600 (18% children under 15; 47% female)-	National(142 700)	National = All forms of TB=124,378 (Male=56%), children <15 = 12.2%, private sector contribution=9 .9%;

		Denominator: Total number of TB cases (all forms) notified nationally and in Challenge TB geographic areas			
3.1.4.	Number of MDR-TB cases detected	**Description:** Total number of bacteriologically confirmed MDR-TB cases diagnosed. Project should follow the MDR-TB/Xpert algorithm in country regarding whether Rifampicin-resistant TB cases (RR-TB) should be counted as confirmed MDR-TB. If a country's algorithm states that a RR-TB cases is automatically assumed to be MDR-TB (i.e. no further DST required), then RR-TB should be included in the number of confirmed MDR-TB cases diagnosed. Otherwise, RR-TB should be excluded until proven via further DST that the case is a confirmed MDR-TB case. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** Number of bacteriologically confirmed MDR-TB cases diagnosed during the reporting period	628 (2015)	650	733 (national) 680 (CTB
3.2.1.	Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums, etc.).	**Description:** The proportion of a cohort of TB cases (all forms, bacteriologically confirmed and clinically diagnosed, new and relapse) registered in a specified period that were successfully treated by setting. **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of new and relapse TB cases (all forms) registered in a specified period that were cured or completed treatment **Denominator:** Total number of new and relapse TB cases (all forms) registered in the same period	87% (2014) Tigray=99.3% (Data quality is an issue) SNNPR = 94 % DD =87.3%	90%	93% Treatment outcome is not yet disaggregated by setting, age or gender (planned for Y3)

3.2.4.	Number of MDR-TB cases initiating second-line treatment	**Description:** The number of bacteriologically confirmed, clinically diagnosed or unconfirmed MDR-TB cases started on second-line treatment during the reporting period. Unconfirmed MDR-TB cases are those awaiting C/DST results. RR-TB may fall under confirmed or unconfirmed depending on the country's MDR-TB diagnosis algorithm. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** The number of confirmed or unconfirmed MDR-TB patients started on second-line treatment in the reporting period	597 (National)	650 (National)	733 (National)
3.2.7	Number and percent of MDR-TB cases successfully treated	**Description:** The proportion of confirmed MDR-TB patients successfully treated (cured plus completed treatment) among those enrolled on second line TB treatment during the reporting period (where applicable disaggregation by HIV status, XDR status). RR-TB may fall under confirmed MDR-TB depending on the country's MDR-TB diagnosis algorithm. **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of confirmed MDR-TB cases successfully treated (cured plus completed treatment) **Denominator:** Total number of confirmed MDR-TB patients enrolled on second line TB treatment during the reporting period.	78%	75%	71% Described above

Objective 2. Prevention

Sub-objective 4. Targeted screening for active TB

Implementation of contact investigations (CI) to augment case finding and for prevention of TB transmission at the community level has been one of the major support areas for CTB. Special attention given to children under five years who are close contacts of smear positive TB patients as

per the national guideline and children who are screened negative for TB, but close contacts of smear positive TB patients would be protected by IPT.

Key Results

- Children under 5 years of age who are contacts of TB cases have been identified as risk group to develop TB, and CTB has been instrumental in building the capacity of TB officers to screen contacts and diagnose or rule out TB in children. In year 2, a total of 1038 children below 5 years of age identified and 941 were screened negative and 425 (45%) of them put on IPT. Of the total children evaluated, children with presumptive TB were 43 (4%) and 13 (30%) children diagnosed TB and put on treatment.

Challenge:

- The TB unit register does not have adequate space for proper monitoring of those children put on IPT, a separate IPT register might be a solution to assess adherence and completion of IPT in children under 5 years. Moreover, currently only a small proportion of eligible children receive IPT

Sub-objective 5. Infection control

Monitoring the implementation of a comprehensive package of the recommended TB IC measures in TB/HIV facilities as an integral part of quality TB care (QUAL TB) is one of the focus areas in CTB supported regions. In addition, the TB unit register has been adapted to record profession of a TB patient by the national HMIS program. However, currently it is not reportable indicator at any level of the health system.

Key Results

- TB IC is addressed during the regular supportive supervision conducted for TB and MDR-TB clinics in all CTB supported regions. Major gaps identified were: IP committees in most facilities were not functional, TB IC facility risk assessment was not conducted and IC measures were not well integrated in the IP plan, cough hygiene and cougher prioritization mechanisms were not consistently implemented and, TB surveillance among health care workers is non-existent. Action taken in year 2 were: onsite orientation provided to the TB focal persons on planning, implementation and monitoring of TB IC activities. Feedback was also provided to the management team of health facilities to revitalize the IP committees including TB focal person for adequate support and follow up of activities.
- As part of evidence generation and to improve awareness at household and community level on IC measures for MDR-TB patients and their family, OR proposal entitled *"Households and community hot-spots of MDR-TB transmission: assessment of TB infection control status in*

SNNPR" has been developed and got ethics clearance from the SNNPR regional ethics body. Evidence that will be generated will be used to take appropriate local intervention to improve household / community infection control practice

Sub-objective 6. Management of latent TB infection

Taking into account of improved access to the GenXpert machine in the country, on top of enhancing the diagnostic capacity to detect TB early in PLHIV, CTB sought to increase the uptake of IPT in PLHIV to manage latent TB infection for those TB screened negative.

Key Results

- Provision of IPT for those 'newly enrolled in HIV care who started IPT' has been monitored nationally / HMIS data and showed a positive trend for the year 2015 was 49.3% (18537/37600) versus 2016 is 53.8% (19913/36995). This could be acknowledged for the efforts of partners including CTB and the Ministry with regional health bureaus conducting several trainings and sensitization workshops on the benefit and use of IPT.

Region	# HIV patients newly enrolled to chronic care	# HIV patients put on IPT	% of HIV patients newly enrolled and put on IPT
Addis Ababa	6744	1184	17.6
Amhara	11721	4474	38.2
Dire Dawa	611	246	40.3
Harari	239	102	42.7
Oromia	9225	3909	42.4
Tigray	3056	823	26.9
SNNP	3960	8404	212.2
CTB Total	**35556**	**19142**	**53.8**
National	**36995**	**19913**	**53.8**

Table 2: IPT coverage among newly enrolled HIV patients in CTB supported regions, July 2015 -June 2016 FMOH/HMIS data

Challenges:

- Monitoring of IPT uptake in the HIV clinic has not been an easy job for the program and this has resulted in inconsistency and unreliable data on IPT be it at regional or national level.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y

5.2.3.	Number and % of health care workers diagnosed with TB during reporting period	**Description:** This indicator measures the percent of healthcare workers (HCWs) diagnosed with TB (all forms) annually (disaggregated by gender and age). This measurement may require a special study using a validated tool and/or methodology. **Indicator Value:** Percent **Level:** National and Challenge TB geographic areas **Numerator:** Number of HCWs diagnosed with TB (all forms) during past year **Denominator:** Total number of HCWs in the same year	N/A	N/A	n/a
	6.1.11. Number of children under the age of 5 years who initiate IPT	**Description:** The number of children under the age of 5 years who initiate isoniazid preventive therapy (IPT) during the reporting period. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** The number of children under the age of 5 years who initiate IPT during the reporting period.	N/A	Amhara and Ormoia (50%), SNNPR (25%), Tigray (25%), AA (25%), DD (25%), Harari (25%), Gam (25%), BGG (25%)	1390

Objective 3. Strengthened TB Platforms

Sub-objective 7. Political commitment and leadership

The third key technical area of the CTB support is to strengthen the health system by building a strong technical programmatic capacity for TB control from the national to regional down to zonal, woredas and community level. At the national level, technical input will be provided via the overall technical working groups such as the TB/HIV, MDR-TB, Childhood TB, TB Research Advisory Committee, etc. At the regional level, CTB Regional teams will work closely with RHB/RRLs to strengthen the system using supportive supervision and tailored mentorship and on the job training. CTB will focus on mentorship and on-the-job training instead of one-off trainings.

Key Results

- Technical and financial support have been provided by CTB to the NTP to conduct semi-annual and annual TB program review meetings and the annual TB research conference in year 2. These meetings have been used to assess the status, progress and major programmatic

challenges of TBL, TB/HIV and MDR-TB control in the country. All program managers from national and regions and partners participated.

- In order to build the national capacity for the implementation of the new global End TB strategy, CTB in collaboration with FMOH organized international training on the END TB strategy and 25 (F=2, M=23) participants from NTP, all regional TB focal persons and experts from implementing partners have attended. The training has helped participants to understand and frame their priorities as per the global direction and recommendations.
- CTB provided technical and financial support to the SNNP regional health bureau to conduct regular review meetings and to conduct woreda based plan reconciliation meetings (July 5-11, 2016) and participants finalized the reconciliation and aggregation of their Woreda planning for each zones. Discussions and consensus were reached on the priority areas of the health sector for the year 2009 EFY (2016/17). Improving the infrastructures, addressing data quality problems and strong program support and monitoring were emphasized during the meetings.

Sub-objective 8. Comprehensive partnerships and informed community involvement

Partnerships will be crucial in building a strong TB control program and will be actively fostered. CSOs and other partners working at the grassroots level will be engaged in CTBC. Collaboration will be sought with other USAID projects, the Urban Health Extension Program (UHEP), in the development of an integrated and innovative approach to increase access to services in the urban settings.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y
7.2.3.	% of activity budget covered by private sector cost share, by specific activity	**Description:** This indicator measures the proportion of CTB project activity budget covered by private sector cost share (if not monetary, will require estimation of costs) by specific activity. **Indicator Value:** Percent **Level:** Nationally for activities at national scale and in Challenge TB geographic areas for activities focused in specific geographic areas where Challenge TB is working. **Numerator:** Amount of private sector cost share covering CTB project activity during most recent fiscal year **Denominator:** Total CTB project activity budget plus private sector cost share amount during the year of assessment.	N/A	n/a	n/a

8.1.	National partnership and coordinating bodies functioning with appropriate representation and capacity	**Description:** This indicator measures the status of the National Stop TB Partnership by using a special questionnaire for collecting relevant country level data. **Indicator Value:** The score is based on the following: 0= no National Stop TB Partnership exists 1= National Stop TB Partnership established, and has adequate organizational structure; and a secretariat is in place that plays a facilitating role, and signed a common partnering agreement with all partners; but does not have detailed charter/plan, and does not meet regularly/produce deliverables; 2= National Stop TB Partnership established, has adequate organizational structure and in a participatory way has developed detailed charter/plan, but does not meet regularly and does not produce deliverables; 3= National Stop TB Partnership established, has adequate organizational structure, has developed detailed charter/plan, meets regularly and critical deliverables are produced **Level:** National	0 (2014)	0	0
8.1.4.	% of local partners' operating budget covered by diverse non-USG funding sources	**Description:** This indicator measures the proportion of CTB project local partners' operating budgets covered by non-USG funding sources. A special questionnaire for collecting relevant country level data among CTB local partners is available. **Indicator Value:** Percent **Level:** Challenge TB geographic areas **Numerator:** Amount of CTB local partners' operating budgets covered by non-USG funding sources (TGF, WB, EU, ADB, DFID, private donations, investment income, other revenue, etc.) **Denominator:** Total operating budget of CTB local partners' operating budget (USG + non-	N/A	N/A	n/a

		USG sources) during the year of assessment.			
8.2.1.	Global Fund grant rating	**Description:** This indicator presents Global Fund TB grant performance rating results **Indicator value:** Score is based on the following: A1 Exceeds expectations A Good performance A2 Meets expectations B1 Adequate B2 Inadequate but potential demonstrated C Unacceptable **Level:** National	B1	A2	B1

Sub-objective 9. Drug and commodity management systems

Commodities and logistics management has been identified as a major challenge for NTP where reports of stock outs of TB commodities and laboratory reagents have been common. In order to create a well-functioning procurement and supply chain management system, CTB supported the use of quantification and early warning tool called 'QuanTB tool' which monitors the supply chain pipeline that will help to improve the result of the quantification process.

Key Results

- In year 2, CTB and USAID/SIAPS in collaboration with the FMoH and Pharmaceutical Fund and Supply Agency (PFSA) organized a five-day training on the use of QuanTB tool for a total of 18 (M=13, F=5) participants from NTP and PFSA who are engaged in the supply management of TB commodities at central level. This trained staff are believed to apply their newly acquired skill and knowledge to improve the supply chain and management system.
- The use of TB patient kits at the health facility level has not been uniformly understood throughout all the regions given its implementation is new in the country. There were problems in reconstitution and adjusting doses according to patient weight, wastage and shortage of drugs have also been observed. To overcome this problem, CTB conducted a capacity building training for TB clinic staff (87, M=35, F=52) in Tigray regions on the use of 'TB patient kits'
- As the NTP embarked on the management of MDR-TB patients in the country since 2009, Second-line anti-TB drugs have not been managed using the routine supply chain of PFSA (e.g. as first-line anti-TB drugs) because of MDR patients were managed in only few facilities in the country. However, due to the increased numbers of treatment initiation centers (TICs) in almost all regions, the management of 2nd line drugs need to be harmonized within the supply chain system of PFSA and this need capacity building for staff in MDR-TB clinics, CTB

supported the training of 55 (M=42, F=13) staff on the management of 2nd line anti-TB drugs in SNNPR.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target Y2	Result Y
9.1.1.	Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	**Description**: This indicator should be used to report the number of stock outs of any type of TB drug at any level of the health system that results in interruption of treatment. **Indicator Value**: Number **Level**: This indicator should be reported at whatever level a stockout that results in interruption of treatment occurs.	N/A	<5%	n/a (assessment result not yet ready)

Sub-objective 10. Quality data, surveillance and M&E

All-important TB indicators are incorporated in the M&E / HMIS system of FMOH, and the NTP regularly review its performance in six and twelve months' time period using key TB indicators of the program. Data quality problem identified as a major gap for the control program in Ethiopia. Therefore, CTB support has focused on implementing routine data quality assurance using RDQA tool and regular supportive supervision, review meetings and availing recording & reporting tools at regional and national level to improve data quality related issues.

Key Results

- RDQA tool adapted/developed and has been used by the regional CTB team during the regular joint supportive supervision and has been used to provide feedbacks and take corrective measures, moreover, CTB also supported financially the printing of different updated recording & reporting formats used in the TB program
- CTB support focused on sustaining the OR capacity built under TB-CARE I support, and therefore, the regular TRAC core committees meetings conducted, and a task force established to undertake three major activities: 1- draft national OR strategy, 2- revise the OR roadmap developed in 2013, and 3rd to conduct a comprehensive situational assessment (using the WHO tool) which will serve as a basis in research prioritization.
- Technical and financial support has been instrumental in organizing the annual research conference that is always conducted in March together with the commemoration of World TB day (pls ref to Q3 report). The TRAC conference has become an exemplary platform for researchers and program managers to come together and discuss on one issue – TB disease burden and control.

- Following-up of the OR strengthening effort under USAID/TB CARE I, a TB research grant has been availed by CTB in year 2 for the already OR trained staff will continue doing OR so that their skill is well developed. (CTB reviewed protocols and funded prioritized research agenda), and hence, four ORs currently being conducted.

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y
10.1.4.	Status of electronic recording and reporting system	**Description:** This indicator measures the status of electronic recording and reporting (ERR) **Indicator value:** Score based on the following: 0=R&R system is entirely paper-based; 1=electronic reporting to national level, but not patient/case-based or real time; 2= patient/case-based ERR system implemented in pilot or select sites (TB or MDR-TB); 3=a patient/case-based, real-time ERR system functions at national and subnational levels for both TB and MDR-TB; 4= a patient/case-based, real-time ERR system is functional at national and subnational levels for both TB and MDR-TB completely and meets WHO standard for TB surveillance data quality (source: Standards and Benchmarks for Tuberculosis Surveillance and Vital Registration Systems – Checklist and User Guide, WHO, 2014). **Level:** National	1	NA	1 (HMIS planned for an integrated eRR, hence, CTB support withheld)
10.2.1.	Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	**Description:** National TB surveillance system is certified based on WHO standards and benchmarks for TB surveillance and vital registration systems (for paper-based or electronic systems). For a country's TB surveillance systems to be certified as providing a direct measurement of TB cases and TB deaths, all 10 standards and their associated benchmarks. **Indicator Value:** Yes/No	NA	NA	no

		Level: National			
10.2.6.	% of operations research project funding provided to local partner (provide % for each OR project)	**Description:** This indicator measures the proportion of Challenge TB-supported operations research project funding provided to local partner(s), by each OR project. **Indicator Value:** Percent **Level:** Challenge TB geographic areas **Numerator:** Amount of operations research project funding provided to local partner by Challenge TB during a year **Denominator:** Total Challenge TB operations research budget during the year of assessment.	N/A	100%	80% 4 OR supported with a total amount of =13,262 US)
10.2.7.	Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)	**Description:** For all Challenge TB-supported operation research projects implemented in a country, results of these projects are used to change policy or practices (ex. change guidelines or implementation approach). Relevant data are collected/ presented for each individual project by special report with qualitative details. **Indicator Value:** Yes/No **Level:** National	N/A	Yes	no

Sub-objective 11. Human resource development

As Human Resource Development (HRD) is the center-piece of ensuring quality and sustainability of care and service in the health system, CTB provided technical and financial assistance from national to regional and lower levels to ensure program specific supervisions, review meetings, with tailored trainings and mentoring linked to the supervisions and review meetings.

Key Results

- Supported more cost-effective trainings through a blended learning approach. Trainings are usually given on offsite basis with trainees going out of their workplace which has high cost and causes interruptions in the health service provision. Blended type of training is an approach of training consisting of both offsite and onsite approach where trainees take reading materials to their locality. Continuing from where HEAL TB stopped and in close collaboration with the ALERT training center, CTB organized a national consultative meeting on blended

learning with focus on TB, HIV and MDR TB trainings. At the end of the consultative meeting the participants agreed on the following action points:

- The FMOH should own the initiative and lead its implementation and partners should provide both technical and financial support
- Establish an advisory committee who can support the development of implementation guideline and advise on the use and scale up of BL/E-learning for IST in health in Ethiopia
- Develop BL/E-learning standardization and implementation guideline with inputs from experts in the field, including technical support from Mayo clinic

#	Outcome Indicators	Indicator Definition	Baseline (Year/ timeframe)	Target	Result
				Y2	Y
11.1.3.	Number of health care workers trained, by gender and technical area	**Description:** This indicator measures the number of healthcare workers (which includes health facility staff, community health volunteers, laboratory staff, sputum transport technicians, community-based DOTS workers) trained, by gender and sub-objective. Training includes any in-person, virtual, or on-the-job training that is longer than half a day and for which curriculum is available. **Indicator Value:** Number **Level:** National and Challenge TB geographic areas **Numerator:** Number of HCWs trained during the reporting period	974 (M=681, F=293)	2710	2701 (M=1819, F=882)
11.1.5.	% of USAID TB funding directed to local partners	**Description:** This indicator measures the proportion of CTB annual funding directed to local partners **Indicator Value:** Percent **Level:** National. Although CTB may be working with local partners in specific geographic areas, the overall total going to local partners at any level should be included in the numerator and compared to the overall country budget. **Numerator:** Amount of CTB country project funding directed to local partners during the most recent fiscal year **Denominator:** Total CTB	N/A	0 no subcontracting yet, request for proposal (RFP) are being drafted, we need renewal of our registration before subcontracting other partners (we're waiting for MOUto be signed after getting the	0

		country project budget during the most recent fiscal year.		agreement between MOH & USAID).	

4. Challenge TB Support to Global Fund Implementation

Current Global Fund TB Grants

Name of grant & principal recipient *(i.e., Tuberculosis NFM - MoH)*	Average Rating*	Current Rating	Total Approved/Signed Amount**	Total Committed Amount	Total Disbursed to Date
ETH-T-FMOH Investing for impact against Tuberculosis and HIV (July 2015 – Dec 2017)	B1	B1	58,177,462	25,260,319	15,262,632

** Since January 2011*

*** Current NFM grant not cumulative amount; this information can be found on GF website or ask in country if possible.*

In-country Global Fund status - key updates, current conditions, challenges and bottlenecks

TB Grant status:- Update on September 2016

- GFATM New funding Model TB Grant, amounts to US$76,497,146 (including US$13,816,149 above allocation) for two and half years.
- The annual funding decision is US$25,260,319 and disbursed in six tranches, the last disbursement was in June. As of June 30 2016, US$21,210,186 was disbursed which was 84% of the total annual funding decision.
- As of 30 June 2016, US$13,692,936 was utilized and the remaining balance was 7,606,512.
- The NTP reported that there was unsettled advance of ETB105.7 million (about $ 4.8 million) at RHBs
- NTP has developed 18 months work plan for GF supported activities
- Two CCM/E regular meetings were conducted between July to September 2016
- Oversight Executive Committee (OEC) held meeting in July 2016 and agreed to conduct oversight visit by the task team in the coming Oct – Dec 2016.
- CTB provides technical support for GF incentive funding. One of the incentive funding of GF is to test all presumptive TB cases with GeneXpert in urban settings. Accordingly, CTB has supported the NTP and urban regions in conducting baseline assessment, placement of GeneXpert and training of health care workers in Addis Ababa, Dire Dawa, Harar and Adama.
- Resource were leveraged with GF for comprehensive TB trainings in Addis Ababa, Integerated Referesher Training for Health Extention Program (TOT & Cascade training) and AFB EQA trainings organized by EPHI.

- GF advisor started duty in July 2016 through USAID funding, CTB secured budget for supporting activities of USAID seconded staff --$18 k.

Challenges:

- Slow utilization and liquidation of funds and delay in implementation of planned activities remains as a challenge. This issue was discussed on the JCC meeting with regional health bureaus heads and, it was agreed that RHBs will settle the advances of six months and above within few months
- Y2 disbursement was expected in July 2016 but not yet released.
- Per diem discrepancies was an issue--GF rate was lower than Implemnting Partners (IPs). However, letter on DSA harmonizarion from Ministry of Finance and Economic Cooperation (MOFEC) was forwarded by USAID mission to all IPs funded by the agency

Challenge TB & Global Fund collaboration this year –Describe Challenge TB involvement in GF support/implementation

Global fund implementation has been enhanced by CTB support through gap identification and including it in the annual work plan of CTB support as well as general programmatic support such as supportive supervision, review meetings and capacity building of staff including GF seconded staff that will enable the overall goal of the NTP in addressing the burden of TB, TB/HIV and MDR-TB in the country. GF seconded staffs are technical officers recruited by the MoH using GF grant at regional and zonal levels. Most them are recruited to support community based TB care activities in selected zones of four big regions. It was found out that some need technical assistance and capacity building alongside government counterparts. Hence, CTB supports these staff through its trainings and s

CTB is participating in GF coordination through its coalition partner/WHO. Furthermore, USAID seconded staff to the NTP has been on board since July 2016, CTB has secured budget to support activities of the USAID seconded staff.

Preparation for the next GF application: The MoH is planning to conduct epi-assessment and program review in the year 2016/17 as part of preparation for the next GF application. CTB project will support the application process technically.

5. Challenge TB Success Story

New drug-resistant TB treatments bring hope in Ethiopia

The emergence of drug-resistant tuberculosis (DR-TB) is a major threat to global TB care and control. In 2014, the World Health Organization (WHO) estimated that 480,000 people developed multi-drug resistant TB (MDR-TB), of which 190,000 died.

Current treatment regimens for MDR-TB patients are far from satisfactory, as they usually require at least 20 months of treatment, with a combination of toxic and less-effective second-line drugs. One hundred and five countries have reported at least one case of extensively drug-resistant TB (XDR-TB) and on average, an estimated 9.7% of MDR-TB cases are XDR-TB. Treatment options for XDR-TB patients are seriously limited with lower cure rates and high numbers of deaths.

Considering all these challenges, new TB drugs and novel regimens are urgently required to enable faster, safer, less toxic and more effective treatment for those with DR-TB. Recently two new drugs, Bedaquiline (BDQ) and Delamanid (DLM), have been granted regulatory approval.

Ethiopia is one of the 30 high TB, TB/HIV and MDR-TB burden countries with increasing concerns about the rising prevalence of MDR-TB. There are currently 45 DR-TB treatment initiation centers and 658 treatment follow-up centers. A total of 2,674 patients have been enrolled on treatment since the start of the program, with treatment success rate of 67.8% for the year 2015/2016.

In late August 2016, Ethiopia hit another milestone in the fight to end TB, when the new DR-TB drugs were launched nationally for the treatment of patients with Pre-XDR and XDR-TB. Two treatment initiating centers (Bishoftu & ALERT hospitals) were selected for the initial phase of treatment with the new drugs, with a plan of further expansion in the near future.

The USAID funded Challenge TB project is one of the partners that is working closely with the national TB program. The project played a crucial role in the development of national new DR-TB drug implementation plan, the national new MDR-TB drug clinical and programmatic guideline, national training materials, conducting Clinical Review Committee meetings and holding the first national training on new and re-purposed drug as well as the first training on culture and molecular second line drugs susceptibility testing by using line probe assay.

The project has finalized the whole preparation including the training of health care workers, the procurement of treatment monitoring equipment (e.g. audiometers) and nutritional support for patients. So far ten patients have started treatment with the new anti-TB drugs and they are doing well.

Detection of TB cases made easy with a Fluorescent Light Emitting Diode Microscope

The nine years report of the Tigray Regional Health Bureau (TRHB) witnessed the decline of Tuberculosis (TB) Case detection rate (CDR) in the region. The TB detection rate has gone down from 72.3% in 2011/12 to 59.5% in 2013/14. According to the report, the TB case detection rate in 2015-2016 was 71.5%, which is below the target set in the health sector transformation plan (HSTP) that aimed to reach 79% of the TB CDR for all forms of TB in the same year.

Currently, among the existing 248 public health facilities in the region, 92 (37.1%) are non-diagnostic for TB either due to lack of laboratory professional or unavailability of microscope. The fact that most centers are non-diagnostic facilities is believed to contribute for the low TB case detection rate in the Region. The majority of the existing TB diagnostic services is using conventional and less advanced diagnostic techniques (light microscope), which might have contributed to the low TB case detection. Among the existing 156 health facilities with TB diagnostic services, only 26 (16.7%) have the Fluorescence Microscope (FM). The overall smear positivity rate for the region was in the lower side for consecutive years, and in the year 2015-2016 smear positivity rate was 6%, which is slightly higher than the expected national threshold of 5%.

The United States Agency for International Development (USAID)/Challenge TB (CTB) project, in collaboration with the TRHB is closely working to improve the TB program performance in the region. Enhancing the diagnostic capacity is among the key strategies to address the suboptimal services in the health facilities.

To improve the quality of TB diagnostic services in the existing health facilities, the USAID/CTB project introduced light emitting diode (LED) FM microscopes in selected high load facilities. Maitsebri primary hospital, of the northwestern zone of Tigray region, was one of the facilities with a high load of patient flow and hence was selected by CTB for the implementation of the LED AFB FM smear microscopy. At the end of 2015, CTB supported the regional lab (RL) and supplied LED FM in the Facility. Following the introduction of the LED FM microscope, the regional CTB laboratory advisor provided practical on-site demonstrations for the laboratory professionals. The project, in collaboration with the RL, provided standardized seven days long practical AFB Smear microscopy training for laboratory professionals and the laboratory staff. After the training, ongoing supportive supervision and technical supports were provided by CTB.

The primary hospital fully started utilizing the LED FM smear microscopy for TB diagnosis since the beginning of 2016. According to the administrative reports of the Hospital, the smear positivity rate of the hospital among presumptive TB patients while using the conventional light microscope in the years 2013/14 and 2014/15 was 5.9% and 7.0% respectively. After the introduction of LED FM diagnostic service in 2016, the smear positivity rate raised to 15.5 %. Mr. Meresa, the laboratory Unit Head of Maitsebri primary hospital, stated that they have observed significant changes on detecting AFB using the LED FM microscope. "We compared positive slides using both the FM and the Ziehl–Neelsen (ZN) microscope, and we found the FM easy to visualize the AFB in the slide. We observed changes on detecting TB cases after using the LED FM. We are very grateful for the support we have received from the USAID government and its implementing partner."

Laboratory staff in Maitsebri Primary Hospital using LED FM to diagnosis TB

6. Operations Research

Title of OR study	Local partners involved in study	Implementation Status	Key findings	Dissemination
Finding the missing cases, undiagnosed pulmonary tuberculosis cases in the inpatient wards of hospital, a case study in Ethiopia	KNCV & Oromiya regional health bureau	Completed	A cross sectional survey was conducted in one big referral hospital of Oromiya, and among 300 inpatients submitted sputum samples, 10 (3.3%) Xpert MTB positive cases were found of whom 4/10 were also smear positive. All Xpert positive patients had cough > 2 weeks of duration, while 8 of them had at least 3 common symptoms of TB and none gave a history of contact. Co-morbidity was found in 5/10 of them. None of them was investigated for TB upon admission.	Presented at the Union conference, will be submitted for publication (IJTLD)
Quality of TB cares services in Ethiopian Somali Regional State Public Hospitals and Health Centers, Eastern Ethiopia.	Somali regional health bureau	1st Advance installment/payment was made Data Collection will commence soon		
Evaluation of the postal service for specimen referral of drug resistance tuberculosis in Amhara region, Ethiopia	Amhara regional health bureau	1st Advance installment/payment was made Data Collection will commence soon		
Spatio -Temporal Patterns of Drug Resistant Tuberculosis Transmission in Addis Ababa, Ethiopia.	Addis Ababa regional lab	1st Advance installment/payment was made Data Collection will commence soon		
Assessment of Sputum Quality & associated factors in predicting AFB	Harar regioal health bureau	1st Advance installment/pay		

smear positivity among pulmonary Tuberculosis suspects in Harare Regional State, Harare, Ethiopia.		ment was made Data Collection will commence soon		
Intensive phase Treatment out come and contributing factors among patients treated for Multi-drug resistant Tuberculosis in Ethiopia.	Dire Dawa health bureau	Final draft proposal submitted and under review		
Evaluating Results of Integrating Childhood TB into IMNCI platform	Addis Ababa City Health Office, FMOH KNCV/CTB	Health Managers are sensitized Health workers trained on Childhood TB, Collection of Baseline Data from selected facilities started screening of children for presumptive TB started. A case of TB identified at IMNCI in one selected HC in Addis		
Households and Community hot-spots of MDR-TB transmission: assessment of TB infection control status in SNNPR, Ethiopia	KNCV / SNNPR	Regional ethics committee approved, Training of data collectors will be done soon		

7. Key Challenges during Implementation and Actions to Overcome Them

Challenge	Actions to overcome challenges
Technical	

Competing priorities for the NTP to implement some of the planned activities, suboptimal commitment and follow up for the TB program at the Regional Health system , e.g. Lack of government TB focal person at Zonal and Woreda level	Supported Regional health annual plans, such as woreda level plans, regional and Zonal integrated review meetings and supportive supervisions so that TB program is prioritized and given high level political attention. Consensus reached with respective Regional offices to assign government TB focal persons at all level or capacitate those health staffs working on Tb program.
TB, TB/HIV and MDR-TB long standing data quality problem	Gaps identified and collaborative planning with RHB done, training & regular supportive supervision of HMIS focal persons to address the skill related problems, adapted/developed RDQA tool for use during the regular SS.
Implementation of CTBC /community DOTS has been sub-optimal due to several tasks assigned to the HEWs and lack of support from their supervisors	Capacity building training for Health extension workers conducted. Will continue to emphasize TB in Integrated Refresher training of HEW
Limited number of zonal and central technical teams (eg TB IC, MDR TB) compared with the large number of zones to be covered under the expanded CTB	Expand zonal teams in bigger regions, add new central and regional advisors for technical areas not well covered in the approved work plan
Administrative	
Low DSA rate for training participants, making CTB a less preferred partner for program implementation support	Continue to enforce the recent GoE guidance while negotiating for better DSA rates according to the prevailing living condition in the country
Frequent unrest and violence in many parts of the country has led to the rescheduling of several project activities	Has low control, focused on areas with less security challenges and monitor the situation more closely
Outbreak of acute watery diarrhea in the country, diverting the attention of all program managers and health workers	Persistently lobbying of the RHBs that TB control activities should not be totally neglected and collaborate in outbreak management activities through indirect involvement of district technical teams (eg, distribute brochures while traveling to sites for TB-specific activities)

8. Lessons Learnt/ Next Steps

- The project has been providing technical and material support to improve on the data quality in the TB control program. The HMIS data continued to have data quality issues in DS TB case notification, CBTC, MDR TB as well as TB/HIV indicators. The project has learned that improving data quality has not been an easy fix and will continue to look for solutions in order to improve the data quality problems as well as to support the routine data quality assessment at health facility and Woreda Health Office levels. Moreover, the use of electronic recording and reporting system is an area that needs further discussion to improve on data quality at all levels.

- Collaborative activities with the national TB control program to realize efforts in strengthening childhood TB care in Ethiopia commenced in 2013-14. However, it took momentum when a National Roadmap for Prevention and Control of childhood TB is launched in July 2015. Since then a national standardized training material and job aid tools were developed and health care workers at the child health clinics (IMNCI) were trained on clinical diagnosis and management of TB as well as on the procedure of sample collection in presumptive TB cases of young children using naso-gastic aspiration. We have learned that such an effort for an integrated child TB care at IMNCI clinic has promoted not only the capacity to diagnose TB in children but also task shifting for sample collection using naso-gastric aspiration that was previously done by physicians at hospital level now to be carried out by nurses at the lower health facility of the IMNCI clinic staff. When this pilot implementation finalized, it will be a concrete evidence to a scaled up implementation at national level and this will significantly impact access and quality of care in children in Ethiopia.

- Ensuring sustainability is one key focus area of CTB support, and hence in collaboration and in consultation with regional health bureaus, we developed a zonal classification based on performance indicators from HMIS as zones in to good (green), medium(yellow) or low (red) performing and therefore, the planned CTB support would be according to their level of performance and need of support until their graduation (i.e. until they reach to high performing zone). This concept of zonal classification and graduation has been appreciated by the regional health bureaus, however, they couldn't endorse the proposed zonal classification as it was only based on HMIS performance indicators. The project learnt that not only key performance indicators but also regional variations in access to health service, presence of high risk population and other population level variables that need to be considered in the zonal classification and their graduation criteria.

Annex I: Year 2 Results on Mandatory Indicators as well as National Data on the Number of pre-/XDR-TB Cases Started on Bedaquiline or Delamanid

MANDATORY Indicators						
Please provide data for the following mandatory indicators:						
2.1.2 A current national TB laboratory operational plan exists and is used to prioritize, plan and implement interventions.	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Score as of September 30, 2016	1	N/A	**Moderate**	The national reference lab has a workplan for the general lab and TB workplan is part of that, and it is prepared within the local language		Provide relevant score in line with the indicator definition as presented in CTB M&E framework. Send a copy of current national TB laboratory operational plan to your PMU M&E Officer.
2.2.6 Number and percent of TB reference laboratories (national and intermediate) within the country implementing a TB-specific quality improvement program i.e. Laboratory Quality Management System	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number and percent as of September 30, 2016	8/11 (73%)	N/A	**Substantial**	Ref lab SLIPTA/SLMTA for TB scored as follows: EPHI & Adama=3, Bahir Dar, St Peter, Harar=2, Mekelle=1, Jimma &		Under additional information, provide a score/rating for every reference laboratory implementing LQMS, either the "GLI Stepwise Process towards TB Laboratory Accreditation" (scoring = phase 1-4) or

				Hawassa=0		SLIPTA/SLMTA for TB (scoring=stars 1-5). (Reference: Laboratory Quality Management Systems Handbook; http://www.who.int/ihr/publications/lqms/en/)
2.2.7 Number of GLI-approved TB microscopy network standards met	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number of standards met as of September 30, 2016	**9 out of 11**	N/A	**Limited**	Standards met: 1, 2, 3, 5, 6, 7, 8,9, 11		This indicator measures whether or not a country has assessed and met the 11 GLI-approved standards for the TB microscopy network. Please send the completed CTB checklist assessing the fulfilment of the requirements for each standard to your PMU M&E Officer. In the additional comments column, provide a list of the standards (number only) that are met.
2.3.1 Percent of bacteriologically confirmed TB cases who are tested for drug resistance with a recorded result.	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Percent (new cases), include numerator/denominator	n/a	n/a	**Substantial**	numerator=presumptive MDR-TB cases with DST result / denominator= total presumptive MDR cases.		This indicator measures the percentage of bacteriologically confirmed TB cases that are tested for drug resistance and also have results recorded in the TB register (disaggregated by new and previously treated cases). Please note that drug resistance testing includes phenotypic (culture DST) and genotypic (molecular DST by GeneXpert, LPA or other molecular technologies).
Percent (previously treated cases), include numerator/denominator	n/a	n/a				
Percent (total cases), include numerator/denominator	4975 / 8081 (61.6%)	4142 / 7089 (58.4%)				

3.1.1. Number and percent of cases notified by setting (i.e. private sector, pharmacies, prisons, etc.) and/or population (i.e. gender, children, miners, urban slums, etc.) and/or case finding approach	**National APA2**	**CTB APA2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number and percent	*All forms of TB=124,378 (Male=56%), children <15yr = 12.2%, private sector contribution=9.9 %;*	*all forms of TB =114,218 (Male=55.4%), children<15=12%; community ref=31%*	**Substantial**			Please completed the separate worksheet "Ind.3.1.1 - APA2"
3.1.4. Number of RR-TB or MDR-TB cases notified	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Total 2015	535	n/a	**Substantial**	The national data is currently cumulative for the year 2015/16. We couldn't get a quarterly data. Moreover, we have a data quality problem which we're trying to work on.		Number of laboratory-confirmed cases of rifampicin-resistant TB (RR-TB) or multidrug-resistant TB (MDR-TB) identified among all TB patients (pulmonary or extrapulmonary; new, previously treated or unknown treatment history).
Jan-Mar 2016	n/a	n/a				
Apr-June 2016	n/a	n/a				
Jul-Sept 2016	n/a	n/a				
To date in 2016	733	721				
3.2.1. Number and percent of TB cases successfully treated (all forms) by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (i.e. gender, children, miners, urban slums,	**National 2014 cohort**	**CTB 2014 cohort**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**

etc.).						
Number and percent of TB cases successfully treated in a calendar year cohort	Getting from WHO	TSR=93.6%	**Substantial**	The national data for : treatment outcome is not disaggregated by setting, age or gender. CTB is working and will try to generate data on key pop in year 3		Under additional information (Column E), give disaggregated data by setting (i.e. private sector, pharmacies, prisons, etc.) and/or by population (gender, children, miners, urban slums, etc.) and/or risk population groups defined by national policy (IDUs, diabetics, prisoners, etc.). There may be overlap between settings and groups. Disaggregation by risk population is required in contexts where Challenge TB is providing treatment support for a specific group according to the annual work plan or in contexts where operations research allows for disaggregation and comparison across groups.
3.2.4. Number of patients started on MDR-TB treatment	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Total 2015	597	n/a		The NTP data is for the year not by quarter		The number of bacteriologically confirmed, clinically diagnosed or unconfirmed MDR-TB cases started on second-line treatment during the reporting period. Unconfirmed MDR-TB cases are those awaiting C/DST results. RR-TB may fall under confirmed or unconfirmed depending on the country's MDR-TB diagnosis algorithm.
Jan-Mar 2016	n/a	n/a				
Apr-June 2016	n/a	n/a				
Jul-Sept 2016	n/a	n/a				
To date in 2016	893	874				
3.2.7. Number and percent of MDR-TB cases successfully treated	**National 2013 cohort**	**CTB 2013 cohort**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number and percent of MDR-TB cases	Getting from WHO	437 (71%)	**Substantia**			The proportion of confirmed MDR-TB patients successfully treated (cured plus

successfully treated in a calendar year cohort			**l**			completed treatment) among those enrolled on second-line TB treatment during the calendar year. Under additional information (Column E), as applicable, give disaggregated data by HIV status, and XDR status. RR-TB may fall under confirmed MDR-TB depending on the country's MDR-TB diagnosis algorithm.
5.2.3. Number and % of health care workers diagnosed with TB during reporting period	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number and percent reported annually	U	U	**Limited**	NTP data doesn't include this indicator. CTB supported regions will try to monitor and generate data in year 3		This indicator measures the percent of healthcare workers (HCWs) diagnosed with TB (all forms) annually (disaggregated by gender and age). This measurement may require a special study using a validated tool and/or methodology.
6.1.11. Number of children under the age of 5 years who initiate IPT	**National 2015**	**CTB 2015**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number reported annually	U	1390	**Moderate**	it's not a reportable indicator, CTB will try to generate more data from pilot areas, data provided here is from previous HEALTB supported regions (Amhara & Oromiya)		The number of children under the age of 5 years who initiate isoniazid preventive therapy (IPT) during the reporting period.
7.2.3. % of activity budget covered by private sector cost share, by specific activity	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**

Percent as of September 30, 2016 (include numerator/denominator)	N/A	n/a	**None**			This indicator measures the proportion of CTB project activity budget covered by private sector cost share (if not monetary, will require estimation of costs) by specific activity.
8.1.3. Status of National Stop TB Partnerships	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Score as of September 30, 2016	0	N/A	**Limited**			Provide relevant score in line with the indicator definition as presented in CTB M&E framework. Please send a completed CTB questionnaire assessing the status of National Stop TB Patnership to your PMU M&E Officer.
8.1.4. % of local partners' operating budget covered by diverse non-USG funding sources	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Percent as of September 30, 2016 (include numerator/denominator)	N/A	n/a	**None**	No local partners invloved in APA2		This indicator measures the proportion of CTB project local partners' operating budgets covered by non-USG funding sources. Please send copies of completed special questionnaires with collected relevant country level data among CTB local partners to your PMU M&E Officer.
8.2.1. Global Fund grant rating	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Score as of September 30, 2016	B1	N/A	**Substantial**			Provide the score for every active TB grant in country based on the following: A1 Exceeds expectations A Good performance A2 Meets expectations B1 Adequate B2 Inadequate but potential demonstrated

						C Unacceptable
9.1.1. Number of stock outs of anti-TB drugs, by type (first and second line) and level (ex, national, provincial, district)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Number as of September 30, 2016	**U**	U	**Moderate**	Assessment done in all CTB supported regions, data is not yet available		This indicator should be used to report the number of stockouts of any type of TB drug at any level of the health system that results in interruption of treatment.
10.1.4. Status of electronic recording and reporting system	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Score as of September 30, 2016	1	N/A	**Limited**	CTB brought TA and initiated discussion on the subject, however, the national HMIS program postponed it until they are ready		Provide relevant score in line with the indicator definition as presented in CTB M&E framework.
10.2.1. Standards and benchmarks to certify surveillance systems and vital registration for direct measurement of TB burden have been implemented	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Yes or No as of September 30, 2016	no	N/A	**None**			If assessed, please share a copy of the report/document assessing the status of relevant standards and benchmarks with your PMUE M&E Officer. In the additional comments column, include the country standards and benchmarks score (and year of completion) if an assessment was done.

10.2.6. % of operations research project funding provided to local partner (provide % for each OR project)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Percent as of September 30, 2016 (include numerator/denominator)	N/A	26,614US/80,000US (33%)	**Substantial**	CTB supported technically & financially to conduct OR to local govt. Total amount for 4 OR budgeted=26,614 and total OR funding available = 80,000		This indicator measures the proportion of **Challenge TB-supported** operations research project funding provided to local partner(s), by each OR project.
10.2.7. Operational research findings are used to change policy or practices (ex, change guidelines or implementation approach)	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
Yes or No as of September 30, 2016	N/A	no	**Limited**	Result not yet available of OR being conducted		Under additional information (Column E), please present relevant information for each individual project. Please send relevant special reports with qualitative details to your PMU M&E Officer.
11.1.3. Number of health care workers trained, by gender and technical area	**CTB APA 2**		**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**
			Substantial			Please note that healthcare workers includes health facility staff, community health volunteers, laboratory staff, sputum transport technicians, and community-based DOTS workers. Below, please give disaggregated data by gender and sub-objective. Training includes any in-person, virtual, or on-the-job training that is longer
	# trained males APA 2	**# trained females APA 2**	**Total # trained in APA 2**	**Total # planned trainees in APA 2**		
1. Enabling environment			**0**			

2. Comprehensive, high quality diagnostics	**554**	**286**	**840**	**850**		than half a day and for which curriculum is available. This indicator is interchangeable with 'Number of individuals trained in any component of the WHO Stop/End TB Strategy with USG funding', which USAID missions may have as a requirement for internal agency reporting.
3. Patient-centered care and treatment (comprehensive TBL, TBHIV, TBIC training)	**373**	**231**	**604**	**600**		
4. Targeted screening for active TB			**0**			
5. Infection control	**41**	**25**	**66**	**60**		
6. Management of latent TB infection			**0**			
7. Political commitment and leadership			**0**			
8. Comprehensive partnerships and informed community involvement	**214**	**30**	**244**	**250**		
9. Drug and commodity management systems	**388**	**192**	**580**	**550**		
10. Quality data, surveillance and M&E	**32**	**30**	**62**	**100**		
11. Human resource development			**0**			
Other (PMDT)	**217**	**88**	**305**	**300**		
Other (explain)			**0**			
Grand Total	**1819**	**882**	**2701**	**2710**		
11.1.5. % of USAID TB funding directed to local partners	**National APA 2**	**CTB APA 2**	**CTB APA 2 investment**	**Additional Information/Comments**		**Notes**

Percent as of September 30, 2016 (include numerator/denominator)	N/A	N/A	**None**	No local partners invloved in APA2		This indicator measures the proportion of CTB annual funding directed to local partners.

Year/Quarter	Number of pre-/XDR-TB cases started on BDQ nationwide	Number of pre-/XDR-TB cases started on DLM nationwide	CTB APA 2 investment	Additional Information/Comments		Notes
Total 2014	n/a	n/a	**Substantial**	Please note that total pts on ND are = 10, and one is on both DLM & BDQ		The number of pre-XDR and XDR-TB patients started on bedaquiline/delamanid during the reporting period as a part of the patient's treatment regimen.
Total 2015	n/a	n/a				
Jan-Mar 2016	0	0				
Apr-Jun 2016	0	0				
Jul-Aug 2016	8	3				
To date in 2016	8	3				

		Reporting period					CTB APA 2 investment	Additional Information/Comments	Notes
		Oct-Dec 2015	Jan-Mar 2016	Apr-Jun 2016	Jul-Sept 2016	Cumulative Year 2			
Overall CTB geographic areas	TB cases (all forms) notified per CTB geographic area *(List each CTB area below - i.e. Province name)*						Substantial	Annual report for NTP covers from 1st July 2015 - 30th June 2016, therefore, year 2 cumulative data is NTP annual report.	Please fill in all applicable data that are available at the time of reporting. If not feasible to provide denominators and calculate percentages for all interventions, the numerator is important in and of itself. In B6-B13 cells, list all
	Oromiya		12070	12044		47752			
	SNNPR		5989	5859		23923			

	Amhara		5830	6717		23985			geographic areas CTB works in (i.e. Province, district, region names). Please use/add as many rows as needed. If CTB doesn't have a specific geographic areas (i.e. national level only), write 'National'. Then, the 'denominator' is the only row that applies. For each geographic area, under the corresponding reporting period column, fill in the # of TB cases (all forms) notified. C14-G14 cells should be the sum of the individual geographic areas above.
	Tigray		1849	1973		7620			
	Addis Ababa		2189	2031		8693			
	Harar		144	114		523			
	Dire Dawa		462	453		1722			
						0			
	TB cases (all forms) notified for all CTB areas	0	28533	29191	0	114218			
	All TB cases (all forms) notified nationwide (denominator)		30484	31095		124378			
	% of national cases notified in CTB geographic areas	#DIV/0!	94%	94%	#DIV/0!	92%			
Intervention (setting/population/approach)							**CTB APA 2 investment**	**Additional Information/Comments**	
Community referral	CTB geographic focus for this intervention	7				7	Moderate		Under column A, select from the dropdown menu (or fill in manually) any case finding intervention used in your Year 2 work plan (i.e. case finding approach, population or setting-specific intervention). Complete the corresponding data for that category. These data should be specific to CTB activities and CTB geographic areas (NOT national data). If CTB did not invest in case finding in a particular category, don't select it from the dropdown
	TB cases (all forms) notified from this intervention		11767	9105		20872			
	All TB cases notified in this CTB area (denominator)		28533	29191		57724			
	% of cases notified from this intervention	#DIV/0!	41%	31%	#DIV/0!	36%			
Children (0-14)	CTB geographic focus for this intervention	7				7	Moderate		

	TB cases (all forms) notified from this intervention		3347	3203		6550			and don't fill in any data for that category. Include as many case finding categories/ interventions as apply to your Year 2 work plan. Under column C, fill in the geographic focus (i.e. names of Provinces/Districts) for the corresponding case finding setting/approach or population. Write 'National' if CTB worked throughout the entire country. When possible, include the % of the total cases notified for that geographic area that were diagnosed from the corresponding approach/setting/populatio n. These percentages will not be mutually exclusive as cases could fall into more than one category (i.e. CI and children).
	All TB cases notified in this CTB area (denominator)		28533	29191		57724			
	% of cases notified from this intervention	#DIV/0 !	12%	11%	#DIV/0 !	11%			
	CTB geographic focus for this intervention					0			
	TB cases (all forms) notified from this intervention					0			
	All TB cases notified in this CTB area (denominator)					0			
	% of cases notified from this intervention	#DIV/0 !	#DIV/0 !	#DIV/0 !	#DIV/0 !	#DIV/0!			

Annex 2

Submitted as a separate attachment.